Paper No. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte HERBERT PEIFFER, THOMAS DRIES, URSULA MURSCHALL, and GUNTER SCHLOEGL

Appeal No. 1997-3497
Application No. 08/312,295

ON BRIEF

Before, WARREN, WALTZ, and KRATZ, Administrative Patent Judges.
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 1, 2, 4-24 and 28, as amended after final rejection. No other claims are pending in this application.

BACKGROUND

Appellants' invention relates to a biaxially oriented polypropylene film structure. An understanding of the invention can be derived from a reading of exemplary claims 1 and 28, which are reproduced below.

> 1. A biaxially oriented polypropylene film structure which has a thickness not exceeding 25 µm and which comprises at least

one propylene polymer-containing ply, said film structure:

having been stretched longitudinally at a stretching temperature in the range of 80 to 150°C and with a longitudinal stretching ratio of 5.5:1 to 9:1 and having been stretched transversely at a stretching temperature in the range of 120 to 170°C and with a transverse stretching ratio of 5:1 to 9:1, said longitudinal and transverse stretching ratios having been selected and employed in combination to provide a modulus of elasticity of the film structure in the longitudinal direction which is greater than 2,500 N/mm^2 and a modulus of elasticity of the film structure in the transverse direction which is greater than 4,000 N/mm^2, said moduli of elasticity having been determined in accordance with German Engineering Standard DIN 53 457;

said propylene polymer of said propylene polymer ply having an n-heptane-insoluble fraction which has a triad-related chain isotaxy index, measured by means of ^{13}C-NMR spectroscopy, of at least 95%;

said propylene polymer-containing ply containing less than 1% by weight, based on the total weight of the film structure, of hydrocarbon resin having a molecular weight less than 5,000;

the water vapor transmission, WVT, of the film structure, as defined in accordance with German Engineering Standard DIN 53 122, being determined by the formula

$$WVT \leq \frac{C}{d}$$

where d is the thickness of the film in µm and C is 22.5 $g \cdot \mu m/m^2$.

28. A biaxially oriented polypropylene film structure comprising at least one polypylene polymer-containing ply, said

> proplylene polymer of said propylene polymer ply having:
>
> an n-heptane-insoluble fraction which has a triad-related chain isotaxy index, measured by means of ^{13}C-NMR spectrosopy, of about 95 to about 96%,
>
> a modulus of elasticity of the film structure in the longitudinal direction which is greater than 2,500 N/mm^2 and a modulus of elasticity of the film structure in the transverse direction which is greater than 4,000 N/mm^2, said moduli of elasticity having been determined in accordance with German Engineering Standard DIN 53 457;
>
> said propylene polymer-containing ply containing less than 1% by weight, based on the total weight of the film structure, of hydrocarbon resin having a molecular weight less than 5,000.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Shiga et al. (Shiga)	4,283,463	Aug. 11, 1983
Matsumoto et al. (Matsumoto)	4,705,828	Nov. 10, 1987
Yamamoto et al. (Yamamoto)	5,231,144	Jul. 27, 1993

Appellants' additionally refer to the following references, of record, in rebuttal:

Suzuki et al. (Suzuki)	4,740,421	Apr. 26, 1988
Crass et al. (Crass)	4,786,533	Nov. 22, 1988
Schloegl et al. (Schloegl)	5,091,237	Feb. 25, 1992

Claims 1, 2, 4-7, 10, 11, 13, 14, 16-24 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Shiga and/or Matsumoto, individually or in combination. Claims 8, 9, 12 and 15 stand rejected under 35 U.S.C. § 103 as being

unpatentable over Shiga and/or Matsumoto, individually or in combination, and further in view of Yamamoto.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we find ourselves in substantially complete agreement with the examiner that the applied references' teachings would have rendered the herein claimed subject matter *prima facie* obvious to one of ordinary skill in the art. Moreover, we agree with the examiner's rebuttal of appellants' arguments as set forth in the answer. Accordingly, we shall affirm both of the examiner's § 103 rejections. We offer the following for emphasis and completeness.

Rejection of Claims 1, 2, 4-7, 10, 11, 13, 14, 16-24 and 28

Appellants have identified six separate groups of claims, five of which pertain to the examiner's first mentioned § 103 rejection, and appellants have stated that all of the claims do not stand or fall together (brief, pages 10-12). However, appellants have not separately argued the patentability of the dependent claims with any reasonable degree of specificity with respect to the rejections that remain before us. See 37 CFR

§ 1.192(c)(7) and (c)(8)(iv)(1995). In this regard, we note that merely pointing out the features of the various dependent claims does not serve to explain in detail why each such claim is separately patentable over the prior art as applied by the examiner under § 103. Accordingly, we consider the dependent claims 2, 4-7, 10, 11, 13, 14, 16-24 to stand or fall with independent claim 1, on this record. See *In re Nielson,* 816 F.2d 1567, 1571, 2 USPQ2d 1525, 1527 (Fed. Cir. 1987). In any event, even if separate consideration of the dependent claims for which separate groupings have been identified was warranted on this record, we note that a sufficient explanation of the rejections of the appealed claims is found in the examiner's answer to refute appellants' position as set forth in the brief relative to those separately grouped dependent claims as well as to refute appellants' position regarding independent claim 1 and separately argued independent claim 28.

Like appellants, Shiga discloses a biaxially oriented polypropylene film structure. The examiner has found that Shiga uses a highly isotactic polypropylene that corresponds to the polypropylene of appellants' claim 1 (answer, page 4, lines 2-6). Appellants do not specifically dispute that finding of the examiner. As also found by the examiner (answer, pages 3 and 4),

Shiga exemplifies the obtention of films of 22 micron thickness after stretching five times in the longitudinal and lateral directions (See example 6 of Shiga). The film is stretched while heating at 150˚C. Similar to appellants' product film, Shiga discloses that the stretched film has good tensile strength and may be used in forming composite films of high stiffness that are useful in automatic packaging (column 7, lines 12-34).

With regard to appealed claim 1 and the claims depending therefrom, the examiner acknowledges that Shiga does not explicitly describe the modulus of elasticity of their film structure in the longitudinal and traverse directions and the water vapor transmission properties thereof. However, as determined by the examiner (answer, pages 4 and 5), Shiga does form their product film using a highly isotactic polypropylene that is substantially free of low molecular weight hydrocarbons and uses stretching ratio' substantially in accordance with the stretching ratio' disclosed by appellants to be necessary to obtain the claimed properties (paragraph bridging pages 5 and 6 of appellants' specification). Hence, on this record, the examiner has reasonably established that simply following the teachings of Shiga would have resulted in a film product that would have obviously possessed water vapor transmission and

modulus of elasticity properties as herein claimed. In this regard, we note that claim 1 and the claims which depend therefrom are drawn to a product film structure that is described, at least partially, in terms of the stretching process by which it is made. The patentability of such claims is determined based on the product itself. *See In re Thorpe,* 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) ("If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process."). Whether a rejection is under 35 U.S.C. § 102 or § 103, where, as here, appellants' product and that of the prior art appear to be identical or substantially identical, the burden shifts to appellants to provide evidence that the prior art product does not necessarily or inherently possess the relied upon characteristics of appellants' claimed product. *See In re Fitzgerald,* 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); *In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433-434 (CCPA 1977); *In re Fessmann,* 489 F.2d 742, 745, 180 USPQ 324, 326 (CCPA 1974). The reason is that the Patent and Trademark Office is not able to manufacture and compare products. *See Best, supra; In re Brown,* 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Moreover, as found by the examiner (answer, page 4), it would have been obvious to one of ordinary skill in the art to modify the stretching ratio employed in making the product film of Shiga in light of the teachings of Matsumoto to optimize the physical properties of the film so as to correspond to the stretching ratio employed by appellants in making their film. See, e.g., column 8, lines 29-42 of Matsumoto. Consequently, we agree with the examiner that the combined teachings of Shiga and Matsumoto would have rendered the herein claimed subject matter *prima facie* obvious on that basis as well.

In light of the above, and for the reasons set forth in the answer, we do not find appellants' arguments set forth in the brief to be persuasive. Appellants reliance on Crass and Suzuki and possibly Schloegl in rebuttal is misplaced. As set forth by the examiner (answer, page 8), those references are drawn to different films and have no bearing on the propriety of the rejection before us. It is significant that appellants have not substantiated their arguments with any objective evidence establishing that the product film of Shiga would not have water vapor transmission and modulus of elasticity properties corresponding to those appellants attribute to their product. In

this regard, we note that the comparative examples in the specification do not reflect the products of Shiga.

Like the examiner, we have separately considered the patentability of independent claim 28 based on the additional arguments presented in the brief and find ourselves in agreement with the examiner's conclusion that the applied references render that claim obvious to one of ordinary skill in the art, within the meaning of 35 U.S.C. § 103.

Unlike claim 1 and the claims which depend therefrom, claim 28 does not require that the biaxially oriented polypropylene film structure have any particular thickness, water vapor transmission properties or that the product be made by using particular stretching process conditions. However, claim 28 does limit the product to one that includes at least one propylene polymer in a propylene polymer ply thereof, which polymer is characterized as having "an n-heptane-insoluble fraction which has a triad-related chain isotaxy index, measured by means of ^{13}C-NMR spectroscopy, of about 95 to about 96%...." Shiga, on the other hand indicates their polymer isotactic pentad fraction should be at least about 0.955 (column 3, lines 53-56 and paragraph bridging columns 3 and 4). According to unsworn information for various olefin polymers furnished by appellants

(brief, pages 32 and 33), the isotacticity measured by a pentad isotaxy index for the 6 sample olefins is slightly lower than the isotacticity measured by a triad isotaxy index.

Based on this unsworn information, appellants, in effect, urge that the 0.955 isotactic pentad fraction of the polymer used by Shiga would have a triad isotaxy index above the maximum called for in appealed claim 28. We do not find this argument convincing. As explained by the examiner (answer, page 6), the word "about" as used in reciting "about 96%" in claim 28 suggests that values higher than 96% are included within the scope of claim 28, including isotaxy index values corresponding to those taught by Shiga. This is consistent with appellants' specification at the paragraph bridging pages 5 and 6 thereof, wherein only a minimum triad isotaxy index is indicated to be important in forming appellants' film structure. Moreover, Shiga discloses prior art polypropylene having a isotactic pentad fraction of 0.945 (comparative example 1). Consequently, we agree with the examiner that Shiga reasonably teaches that product films may be made from polymers having an isotaxy index corresponding to that of claim 28 depending on the desired properties thereof.

Appellants' reference to superior properties for their product being surprising (brief, page 33) has not been substantiated on this record with declaration evidence and expert opinion establishing such for the claimed product. This is especially so given the breadth of the appealed claims. Consequently, we shall sustain the examiner's § 103 rejection of claims 1, 2, 4-7, 10, 11, 13, 14, 16-24 and 28 over the applied prior art on this record.

Rejection of Claims 8, 9, 12 and 15

With respect to the examiner's § 103 rejection of dependent claims 8, 9, 12 and 15, appellants do not contend that the additionally applied Yamamoto reference in combination with Shiga and/or Matsumoto would not have rendered the additional limitations of those claims obvious to one of ordinary skill in the art. See brief, page 32. Accordingly, our affirmance of the examiner's rejection of claims 8, 9, 12 and 15 follows from our affirmance of the examiner's first mentioned rejection as indicated above.

CONCLUSION

The decision of the examiner to reject claims 1, 2, 4-7, 10, 11, 13, 14, 16-24 and 28 under 35 U.S.C. § 103 as being unpatentable over Shiga and/or Matsumoto, individually or in

combination and to reject claims 8, 9, 12 and 15 under 35 U.S.C. § 103 as being unpatentable over Shiga and/or Matsumoto, individually or in combination, and further in view of Yamamoto is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHARLES F. WARREN Administrative Patent Judge	)
THOMAS A. WALTZ Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
PETER F. KRATZ Administrative Patent Judge	)

PFK/sld

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